

Remarks

Claims 40-58 are pending in the subject application. Applicant acknowledges that claims 59 and 60 have been withdrawn from further consideration as being drawn to a non-elected invention. By this Amendment, Applicant has amended claims 40, 41, 48 and 58 and added new claims 61-75. Support for the amendments and new claims can be found throughout the subject specification and in the claims as originally filed (see, for example, Figure 2, original claims 1-21 of the PCT publication, previously presented claim 40 and pages 6-12 of the as-filed specification). Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 40-75 are currently before the Examiner with claims 59 and 60 standing withdrawn from consideration. Favorable consideration of the pending claims is respectfully requested.

Claims 40-58 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Applicant respectfully asserts that the claims as filed are definite. The Office Action indicates that it is unclear how the recited method steps limit the claimed product. Applicant gratefully acknowledges the Examiner's helpful suggestion suitable claim language to obviate the rejection. In addition, the phrase "the underlying surface phase" in claim 58 has been rejected because of insufficient antecedent basis. Accordingly, in view of the amendments made to the claims, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, is respectfully requested.

Claims 40-45, 47-54, 57 and 58 are rejected under 35 U.S.C. § 102(b) as anticipated by Mirkin *et al.* (WO 01/73123). As an initial matter, the Office Action indicates that the terms "analyte" and "undesired" are not limiting as they are related to the intended use of a solid phase. The Office Action states that Mirkin *et al.* disclose a set of materials comprising: a) the first composition of matter is a sample comprising an analyte and an undesired constituent, wherein the analyte is a polynucleotide and the undesired constituent is a chelator, and b) the second composition of matter is a material comprising a composition comprising a solid phase that is coated with polynucleotides at least 20 nucleotides in length, wherein the solid phase binds the undesired constituent and the polynucleotide coating covers the exposed surface of the solid phase to an extent that any binding of the solid phase to the analyte is impeded, wherein the sample and the second material are not in contact with each other. Applicant respectfully asserts that the Mirkin *et al.* reference does not anticipate the claimed invention.

For example, Mirkin *et al.* teaches that both the nucleic acids and nanoparticles to which the nucleic acids are attached are functionalized with groups that facilitate covalent binding between the nanoparticle and the nucleic acid (see, for example, pages 54-56). Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(b) is respectfully requested as the cited reference fails to anticipate the claimed invention.

Claims 46, 55 and 56 are rejected under 35 U.S.C. § 103(a) as obvious over Mirkin *et al.* (WO 01/73123) in view of Wakamura *et al.* (JP 2000-327315). The Office Action states that Wakamura *et al.* teach the production of magnetic hydroxyapatite particles. The Office Action concludes that “in summary, absent a secondary consideration, it is submitted that it would have been *prima facie* obvious to a skilled artisan at the time of invention to produce a magnetic hydroxylapatite nanoparticle within the reactants of Mirkin since the prior demonstrates such a material as suitable for such a use”. Applicant respectfully asserts that the claimed invention is not obvious over the cited references.

An obviousness rejection fails if the prior art relied on does not disclose all of the limitations of the claimed invention. *See, e.g., In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001). Thus, obviousness requires a teaching or suggestion of all limitations in a claim. *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974)). In this case, the combination of Mirkin *et al.* and Wakamura *et al.* fails to teach each of the limitations of the claimed invention. As noted above, Mirkin *et al.* teach the formation of polynucleotide coated nanoparticles in which the polynucleotides are covalently attached to the nanoparticles (see pages 54-56 of Mirkin *et al.*). Wakamura *et al.* teach titanium oxide coated hydroxylapatite particles, which on the basis of the Mirkin *et al.* can be functionalized with carboxylic acid groups (see page 56, around line 10). Applicant respectfully submits that the combination of Mirkin *et al.* and Wakamura *et al.* fail to teach a polynucleotide coated solid phase, wherein the polynucleotides are attached to said solid phase by encapsulation coating, adsorption, absorption, ionic interactions or hydrophobic interactions. Accordingly, it is respectfully submitted that the claimed invention is not obvious over the teachings of Mirkin *et al.* and Wakamura *et al.* and reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

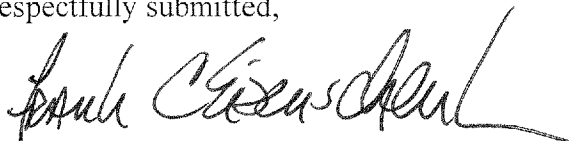
It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicant's agreement with or acquiescence in the Examiner's position. Applicant expressly reserves the right to pursue the invention(s) disclosed in the subject application, including any subject matter canceled or not pursued during prosecution of the subject application, in a related application.

In view of the foregoing remarks and amendments to the claims, Applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicant invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



Frank C. Eisenschenk, Ph.D.

Patent Attorney

Registration No. 45,332

Phone No.: 352-375-8100

Fax No.: 352-372-5800

Address: P.O. Box 142950  
Gainesville, FL 32614-2950

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